

50-25 PermaQuik Complete Universal Bonding System (Project 96-37) (12/96)

The PermaQuik Complete Universal Bonding System is a three- component dentin bonding agent recommended by the manufacturer for bonding to six different substrates (enamel, dentin, porcelain, noble metals, base metals, and composite). It is not recommended for dentin treatment prior to luting a restoration with a resin cement and no instructions are provided for using the product for bonding amalgam. All components in the PermaQuik kit are provided in syringes. The product is used for bonding to tooth structure in the following way. The tooth structure is etched by applying a 35% phosphoric acid etchant for 15 seconds (a 10% phosphoric acid is also provided for clinicians who prefer to use it). After the tooth structure is rinsed and lightly dried, the ethanol-based primer is rubbed into the enamel and dentin vigorously for 15 seconds. The primer is then gently dried for 7 to 10 seconds to volatilize the ethanol and light activated for 20 seconds. The bonding procedure is completed by vigorously rubbing the fluoride-containing adhesive into the primed tooth structure for 15 seconds, followed by air thinning and light activation for 20 seconds. In addition to the etchant, primer, and adhesive resin, the kit contains one syringe each of Porcelain Etch (a 9.5% buffered hydrofluoric acid solution) and Silane. Two types of special disposable syringe tips are also included along with a laminated, graphics-containing instruction card. This project involved laboratory testing of the product's application time and one-week shear bond strength to dentin; clinical-user testing was also conducted at five USAF dental clinics.



Manufacturer:

Ultradent Products, Inc.
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Suggested Retail Price:

\$116.50 PermaQuik Complete Universal Bonding System (item number REF/UP 610) contains:
three 1.2-cc prefilled syringes of PermaQuik Bonding Primer
two 1.2-cc prefilled syringes of PermaQuik Bonding Resin
two 1.2-cc prefilled syringes of Ultra-Etch 35%
one free sample of Ultra-Etch 10%
one 1.2-cc prefilled syringe of Ultradent Porcelain Etch (9.5% buffered hydrofluoric acid)
one 1.2-cc prefilled syringe of Ultradent Silane
60 Inspirial Brush tips
40 Black Mini Brush tips

Government Price:

\$99.03 PermaQuik Complete Universal Bonding System (item number and contents as listed above)

ADVANTAGES:

- + Unlike most other currently-popular bonding agents, PermaQuik is provided with a silane solution and a hydrofluoric acid etchant.
- + Dentin/enamel etchant (phosphoric acid) is provided in 10% and 35% concentrations.
- + The acid etchant is used to simultaneously etch enamel and dentin which simplifies the etching

process.

- + No mixing of components is required.
- + Is provided with well-designed, concise, laminated instruction card that use graphics to show product application.
- + Requires fewer application steps per use than other current multi-purpose bonding products.
- + Is less expensive than other multi-purpose bonding products (e.g., All-Bond 2 [Bisco], \$126.65; Scotchbond Multi-Purpose Plus Adhesive [3M], \$123.46; PermaQuik, \$99.03)
- + Is provided with a Material Safety Data Sheet (MSDS).
- + Syringe packaging makes application easy.
- + Specially-designed, disposable syringe tips work well.
- + Bonding resin contains fluoride.

DISADVANTAGES:

- Although identified on syringe side and color-coded, primer and bonding resin syringes can easily be mistaken for each other.
- Kit does not include a metal opaquer to cover dark metal surfaces during porcelain repair bonding.
- Filled bonding resin has a slightly thicker viscosity than other products bonding resins.
- Product comes with two types of disposable syringe tips; the tip for the etchant and the bonding resin can not be used with the primer and vice versa or components will not be dispensed properly.

SUMMARY AND CONCLUSIONS:

PermaQuik contains more of the basic components (e.g., a silane solution and a hydrofluoric acid etchant) that clinicians need for different types of bonding than most currently-available bonding products. It does not, however, contain a metal opaquing resin which is occasionally useful for masking metal exposed as a result of porcelain fracture. It should be noted that PermaQuik is not suggested for amalgam bonding or dentin treatment prior to luting a restoration with a resin cement. Some may fault PermaQuik's syringe style of packaging because it appears to compromise infection control. Ultradent has addressed this problem by selling Syringe Covers (6 cents each, item REF/UP 239) which are flexible, plastic sleeves that efficiently barrier-protect the syringe barrel and shaft. These covers are well made and would be useful in any clinic that uses syringe-packaged products. This type of barrier protection is not easy to achieve with the bottle form of packaging seen with most current-generation bonding products. The commonly-used infection control measure of pre-operative unit dosing can be a potential problem with some bottled dentin bonding agent components because of their volatility. PermaQuik's application time was comparable to several other currently-marketed dentin bonding agents and it was neither the fastest nor the slowest product to apply. Its bond strength was comparable to that of other bonding agents tested by DIS. PermaQuik is less expensive than other multi-purpose bonding products. The **PermaQuik Complete Universal Bonding System** is rated **Acceptable** for use by the federal dental services.